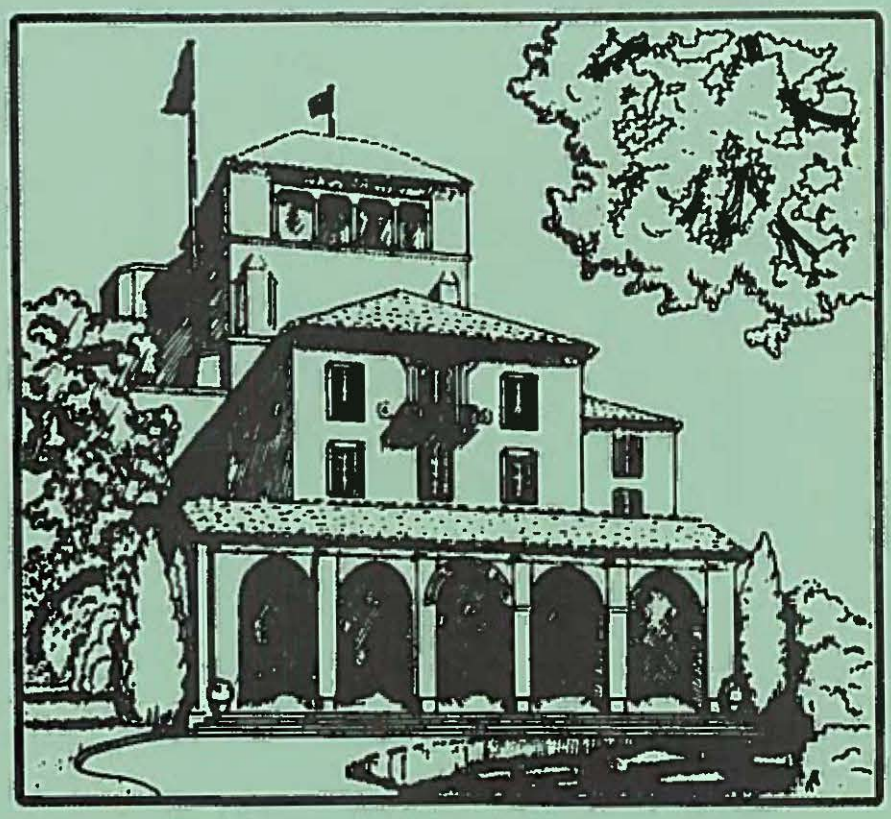
1970-09-28

Naval Postgraduate School Faculty Bulletin, 1970-09-28

Monterey, California, Naval Postgraduate School



Naval Postgraduate School

FACULTY BULLETIN

ISSUE NO. 19-70 28 SEPTEMBER 1970

IN MEMORIAM
DEAN EMERITUS ROY STANLEY GLASGOW

The Naval Postgraduate School community has been deeply saddened by the death of Dean Emeritus Roy S. Glasgow. He came to the School in 1949 as its Academic Dean, and, during his eleven years of leadership in this capacity, was a dominant influence in its progressive growth from a small school in Annapolis into a vigorous graduate-education institution at Monterey. Dean Glasgow was born in St. Louis, Missouri, in 1895. He received his B.S.E.E. degree in 1918 from Washington University, his M.S.E.E. in 1922 from Harvard, and his E.E. degree from Washington in 1925. He was a faculty member at Washington University in the Department of Electrical Engineering for 29 years, serving as chairman from 1936 to 1949. In 1961 he was awarded the honorary degree of Doctor of Science

by that institution. A skilled and dedicated teacher, his students went on to occupy prominent positions in industry, government and the academic community. Countless other engineers made effective use of his internationally renowned textbook, "Principles of Radio Engineering", which, published in 1936, was translated into many languages and remained current through nineteen printings. When he relinquished the position of Academic Dean of the Naval Postgraduate School in 1960 he returned to teaching, serving in the department of Electrical Engineering until his retirement in 1965. During World War II he served as Radio Consultant to the War Department, with service in Europe, North Africa and India. In 1945 he headed the Technical Intelligence Committee in Germany for the War and State Departments. In this capacity he was influential in bringing to this country much of the available German scientific and engineering talent, notably in optics and rocketry. For these services, he was honored with the Distinguished Service Award of the U. S. Army. Dean Glasgow was a Fellow of the American Institute of Electrical Engineers, Fellow of the Institute of Radio Engineers, and an honorary life member of the St. Louis Engineers' Club. He received the Distinguished Alumni Citation of Washington University in 1954. He was a registered professional engineer and had extensive calls from industry and government. He will be remembered as Academic Dean not only for his key role in the academic development of the School, but also for his fostering of a pleasant working environment. He was a compassionate man, sensitive to human problems and readily accessible to faculty and staff. His robust sense of humor and renowned abilities as a raconteur eased many difficult situations and personal burdens. He gave much, both of professional skill and personality, to this School.

NEW NPGS FACULTY

Lieutenant Junior Grade James Capra, USNR, received the degree of Bachelor of Arts from Georgetown University in 1968. His Master of Science degree in management was obtained from the Naval Postgraduate School in 1970. From 1964-1968 he was employed as a research assistant to U. S. Senator Peter H. Dominicle of Colorado. In late 1968 he entered the U. S. Naval Reserve and was commissioned an Ensign in March of 1969. He joined the faculty of the Department of Operations Analysis at the Naval Postgraduate School, Monterey, California, in June. His current research is in the area of psychological scaling of political attitudes and economic models of voting bodies. LTJG Capra is a member of Phi Beta Kappa and the American Political Science Association. In July, 1970, he was selected by the Governor of Colorado as the Outstanding Young Man of 1970 from the state of Colorado.

Assistant Professor Thomas E. Cooper received his B.S. degree in Engineering Mathematics in 1966; his M.S. degree in Mechanical Engineering in 1967, and his Ph.D. in Mechanical Engineering in 1970, all from the University of California at Berkeley. During his graduate study, he held fellowships from the National Science Foundation and the National Institute of Health. His research was in the field of bioengineering in the areas of cryosurgery and biological thermophysical property studies. In August he joined the faculty of the Department of Mechanical Engineering. His

current research interests are in the field of heat transfer. He is a member of Sigma Xi, Tau Beta Pi and is also a consultant with the Lawrence Radiation Laboratory, Livermore, California.

Associate Professor Craig Comstock completed his undergraduate education at Cornell University in 1956, receiving a Bachelor of Engineering Physics. He served for 5 years on active duty with the U. S. Navy, first as Electronics Officer on a radar picket ship and the last three as instructor in mathematics here at NPS. Continuing his Navy affiliation, he is currently a LCDR in the Ready Reserve. While a full time instructor he completed the requirements for M.S. in Mathematics with distinction which he received from NPS in 1961. From 1961 to 1964 he was at Harvard University and in September 1964 he was appointed assistant professor of mathematics at Penn State University. Dr. Comstock completed his doctoral work at Harvard in 1965 and for the next 2 years served as assistant professor of mathematics at the University of Michigan. He rejoined the faculty of the Department of Mathematics in August. Dr. Comstock has published several papers in the research journals, dealing with wave propagation, magnetospheric physics and solutions of differential equations and is currently writing a book on the asymptotic properties of functions. He is a member of the Mathematical Association of America, Society for Industrial and Applied Mathematics, the American Mathematics Society, and Sigma Xi.

Associate Professor Maximilian F. Platzer received the degree of Diplom-Engineer in Mechanical Engineering in 1957 from the Technical University of Vienna. In June 1960 he came to the United States to work for the Army Ballistic Missile Agency in Huntsville, Alabama. He stayed with NASA's George C. Marshall Space Flight Center for the following six years, where his work was primarily concerned with the analysis of unsteady flow problems on missile and space vehicle bodies in support of flutter, stability and control investigations of the Saturn I and Saturn V space launch vehicles. During this time he also completed his doctoral dissertation with the Technical University of Vienna. His doctoral thesis treated the problem of compressible flow past oscillating low aspect ratio bodies and he was awarded the degree of Doctor of Technical Sciences "with distinction" in June 1964. In July 1966 he joined the Lockheed-Georgi Research Laboratory as a research scientist in the Aerospace Sciences Laboratory. The following year he was promoted to Chief of the Aeromechanics Research Group within the same laboratory. He joined the faculty of the Department of Aeronautics in August. His current research is concerned with low-speed and transonic unsteady flow problems. He is a member of the American Institute of Aeronautics and Astronautics.

Assistant Professor V. Michael Powers received the degree of Bachelor of Science in Engineering (Science Engineering) from the University of Michigan in February 1963. Graduate study continued in Electrical Engineering at Michigan and he received the degree of Master of Science in Engineering in May 1964, while he was working in the area of microwave antennas at the University of Michigan Radiation Laboratory. The next year he joined the University of Michigan's Systems Engineering Laboratory as a research assistant. He received the degree of Doctor of Philosophy

in Computer, Information and Control Engineering in August, 1970. His research was on on-line recognition of hand-drawn characters. He joined the faculty of the Department of Electrical Engineering in September. His current research interest include the structure and application of computers, including interactive and display operations and pattern recognition. He is a member of the Association for Computing Machinery, the Institute of Electrical and Electronics Engineers, and Sigma Xi.

Associate Professor Michael G. Sovereign received a B.S. from the University of Illinois in 1959 and a M.S. degree in Industrial Management from Purdue in 1960. In 1965, he received the Ph.D. from Purdue with a major in economics. During his graduate work, he served as assistant treasurer for the Midwest Program on Airborne Television Instruction, Inc. Following graduation, he became Assistant Professor of Business Administration at the University of Illinois, where he taught production and logistics management as well as quantitative techniques for business. In 1969, he served as operations research analyst with the Office of the Secretary of Defense, Systems Analysis in the Mobility Forces area. He joined the faculty of the Department of Operations Analysis in September. He is a member of American Economic Association, Institute of Management Sciences and Operations Research Society of America.

Assistant Professor Gordon H. Syms received his B.S. degree from the University of Alberta in 1959. The four years following graduation, he was in the Royal Canadian Air Force where he was employed as a telecommunication officer. He supervised the operation and maintenance of ground radar, communications, and telemetry equipment. He then enrolled as a graduate student at the University of Washington, Seattle, and received the degrees of Master of Science in 1964 and Doctor of Philosophy in 1967, both in electrical engineering. His doctoral research was in pattern recognition and machine learning. For three years after graduation he was employed by the Department of Computing Science at the University of Alberta where he taught courses in the logical design of computers and the design and evaluation of computer operating systems. He joined the faculty of the Department of Mathematics in September. His current research is concerned with the evaluation and design principles of time-sharing computer systems. He is a member of the Association of Computing Machinery, the Institute of Electrical and Electronics Engineers, Canadian Information Possessing Society, Association of Professional Engineers of Alberta, and Sigma Xi.

Associate Professor James W. Vigen received his B.S. degree in economics in 1963 from Colorado State University. In 1965 he received a Ph.D. from The Ohio State University where he majored in agricultural economics. In 1965 he was appointed appointed Assistant Professor of Statistics and Business Economics at the University of Toledo and was promoted to Associate Professor of Operations Analysis in 1969. During the period 1965-1968, he was under contract to the Standard Oil Company of Ohio for research leading to development of an economic model of totally integrated oil refinery. Beginning in September 1968 he was a participating lecturer in a one year educational program to increase managerial effectiveness in hospitals in the Northwestern Ohio region. In September he joined the

faculty of the Department of Business Administration and Economics. He is a member of the American Economics Association, The Institute of Management Science, Econometric Society, and American Statistical Association.

Associate Professor Peter C. C. Wang received his B.A. degree from Pacific Lutheran University at Tacoma, Washington in 1960. Graduate study followed at the University of Oregon and Wayne State University where he received the degree of Master of Arts in 1962 and the Ph.D. in June, 1966. His thesis research was in the field of probability theory. He was employed by Wayne State University as Instructor in Mathematics for two years and subsequently employed as Assistant Professor in Statistics at Michigan State University, University of Iowa and Stanford University. He joined the faculty of the Department of Mathematics in August. His current research is concerned with Traffic Flow Theory, Reliability Theory, Combinatorics and Stochastic Processes. He is a member of the American Mathematical Society, the Institute of American Mathematical Statistics, London Mathematical Society, Society of Industrial and Applied Mathematics, Fellow of the Academy of Science--Iowa section, Operations Research Society of America and the Society of Sigma Xi.

Visiting Professor Martin F. Wiskoff received a Bachelor of Arts in Psychology from the City College of New York in 1956. He attended the University of Maryland full-time until 1958 when he entered the U. S. Army. He returned to the University of Maryland on a part-time basis in 1959 and received a Master of Arts in Industrial Psychology later that year. In 1963 he was awarded a Ph.D. in Industrial Psychology with a minor in Quantitative Psychology by the University of Maryland. Upon receipt of his doctorate, he joined the Psychological Research Branch of the Bureau of Naval Personnel as the Manager of Selection Research. In 1967 he became Head of the Branch, with responsibilities for research in the areas of selection, classification, performance evaluation, education and training, attitudes and retention. In September he joined the faculty of the Department of Business Administration and Economics. He is presently serving on the Interagency Board of U. S. Civil Service Examiners and as Navy representative in the area of noncognitive testing on The Technical Cooperation Program. He is a member of the American Psychological Association, Eastern Psychological Association, Human Factors Society and the Honor Society of Psi Chi.

Visiting Assistant Professor Sidney J. Yakowitz received the degree Bachelor of Science in June, 1960 from Stanford University. After graduation, he received employement as an Electrical Engineer at the Berkeley Installation of the University of California's Lawrence Radiation Laboratory. In the summer of 1963, he undertook graduate studies at Arizona State University, where during the years 1963-1966 he earned his M.S. and Ph.D. degrees in Electrical Engineering. His area of specialization was statistical communication and control theory. In September of 1966, he joined the Systems Engineering Department at the University of Arizona, where he had a joint appointment with the Mathematics Department and also served on the Computer Science Committee. He has taught courses in

systems theory, automata, optimization, and probability and statistics at both undergraduate and graduate levels. In September he took a leave of absence from the University of Arizona to become a Postdoctoral Research Associate (under the auspices of a program administered by the National Academy of Sciences) in the Electrical Engineering Department. His research will include study of theoretical and computational aspects of certain sequential decision problems arising in engineering. Also, he is continuing work on a text on probabilistic simulation by digital computer. Dr. Yakowitz is a member of the Institute of Mathematical Statistics, the Pattern Recognition Society, Eta Kappa Nu, and the American Mathematical Society.

FACULTY PUBLICATIONS

William C. Boggess

Pass the Word - Well. United States Naval Institute Proceedings, Vol. 96, No. 9/811, September 1970, p. 83-84.

Robert E. Boynton

Where can we find a good personnel man? The Personnel Administrator. Sept/Oct 1970, p. 34-36.

Craig Comstock

On weighted averages at a jump discontinuity. Quarterly Applied Mathematics, July 1970, p. 159-166.

Abstract: It is well known that the inverse Fourier transform of a function actually yields the average value of the left and right limits at a jump discontinuity. Using the Bessel functions of fractional argument instead of the trigonometric functions we show that one can obtain weighted averages (e.g. two-thirds $f(x^+)$ plus one-third $f(x^-)$ under rather reasonable conditions. This generalizes some recent work of Muldoon.

Craig Comstock

On the Limit Cycles of $y'' + uF(y') + y = 0$". Journal of Differential Equations, Vol. 8, p. 173-179, (1970).

Abstract: We study the subject equation in the case where $F(y')$ has an infinite number of zeros and alternates sign between the zeros. Using a geometric method to estimate the solutions we show that for each finite value of u the subject has an infinite number of different periodic solutions. This generalizes previous results by D'heedene and by Comstock.

R. J. Smith and R. A. Erchul

"Lubricant and polymer reduction of sediment adhesion." Proceedings, Conference on Engineering in the Oceans II, December 1969, p. 621-640.

Abstract: The usefulness of numerous types of materials and coatings to allow greater penetration of coring tools into the sea floor was investigated.

PRINCIPAL PROFESSIONAL ACTIVITIES

Associate Professor James K. Arima of the Department of Operations Analysis served as a discussant in a symposium "Validation of Human Performance Simulations" at the 78th Annual Convention of American Psychological Association held in Miami Beach from 2-8 September.

Professor T. H. Gawain of the Department of Aeronautics presented a paper entitled, "Numerical Simulation of Transition and Turbulence in Plane Poiseville Flow" at the Second International Conference on Numerical Matters in Fluid Mechanics in Berkeley on 18 September.

A paper entitled "On the Calculation of Sensitivity Functions for Non-linear Circuits" by Dr. Sydney R. Parker, Chairman of the Electrical Engineering Department, was presented at the Kyoto International Conference on Circuits and System Theory held in Kyoto, Japan 9-11 September 1970. Since Professor Parker was unable to attend this meeting, his paper was presented by Dr. Gabor Temes of the University of California, Los Angeles. The conference was sponsored by the Institute of Electronics and Communication Engineers of Japan, and all papers will be published in a Conference Proceedings.

Associate Professor George A. Rahe of the Department of Electrical Engineering served as Chairman of the 1970 Western Simulation Council National Invitational Seminar on Advanced Simulation held in San Diego from 23-26 September.

Associate Professor Fred Schwirzke of the Department of Physics presented an invited talk on "Laser Produced Plasmas" to the Department of Physics of the University of Bochum, Germany on 17 September.

The following papers were presented by members of the Oceanography Department at the Twelfth Conference on Coastal Engineering held in Washington, D. C. from 13-19 September.

By Professor W. C. Thompson, "Swell Source and Characteristics from Coastal Wave Records" and

by Assistant Professor E. B. Thornton, "Distribution of Longshore Current Across the Surf Zone."

Visiting Professor Martin F. Wiskoff with the Department of Business Administration & Economics presented a paper entitled "Identification of Career Oriented Navy Personnel" at the American Psychological Association Annual Convention held in Miami Beach from 2-8 September.

RESEARCH AWARDS (from 1 Aug to 15 Sep)

Source	Amount	Title	Principal Investigator
Naval Air Systems Command Washington, D. C.	$ 3,000	Propulsion System Analysis	Asst Prof D.W. Netzer Aeronautics
Naval Air Systems Command Washington, D. C.	10,000	*Interface of Materials and Structures of Air Frames	Assoc Prof U. Haupt Aeronautics
Naval Air Systems Command Washington, D. C.	20,000	*Holography	Prof D.J. Collins Aeronautics
Naval Air Systems Command Washington, D. C.	11,500	*Transonic Compressor Study	Dr. M. H. Vavra Aeronautics
Naval Air Systems Command Washington, D. C.	20,000	*Electrohydrodynamic Research	Asst Prof O. Biblarz Aeronautics
Naval Air Systems Command Washington, D. C.	18,000	*Explosives Phenomena	Prof J.E. Sinclair Mat.Sci. & Chemistry
Naval Air Systems Command Washington, D. C.	2,500	*Pilot Evaluation	Assoc Prof D.M. Layton Aeronautics
Nat'l. Aeronautics & Space Admin. Ames Research Center Moffett Field, Calif.	24,785	Unsteady Boundary Layer	Assoc Prof J.A. Miller Aeronautics
Naval Air Engineering Center Philadelphia, Pa.	6,000	*Turbine Type Energy Absorber	Prof M.H. Vavra Aeronautics
Naval Ship Systems Command Washington, D. C.	5,000	*Replenishment at Sea	Assoc Prof P.R. Milch
Naval Ordnance Systems Command Washington, D.C.	20,000	*Air-Sea Interface Fluxes and Acoustic Propagation	Assoc Prof W.W. Denner Asst Prof N.E. Boston Oceanography

* Continuations of existing programs

Source	Amount	Title	Principal Investigator
Naval Ordnance Systems Command Washington, D. C.	$25,000	*Burning Rate Mechanisms of Solid Propellants	Asst Prof D.W. Netzer Aeronautics
Office of Naval Research Arlington, Virginia	18,390	Operations Research Management	Assoc Prof D.A. Schrady Operations Analysis
Naval Ship Systems Command Washington, D. C.	6,977	*Ocean Surface Parameters Affecting Sonar Scatter	Prof H. Medwin Physics
Naval Ship Research & Development Lab. Panama City, Florida	25,000	*Mine Countermeasure Applications (Glendora)	Dean C. E. Menneken Research Administration
Naval Ship Systems Command Washington, D. C.	8,500	*Coherent Sound Scatter	Prof H. Medwin Physics
Naval Security Group Headquarters Washington, D. C.	16,000	*Studies in Fields of Signal Analysis, Receiving Systems, Antennas and Direction Finding	Assoc Prof G.A. Myers Electrical Engineering
Naval Weather Research Facility Norfolk, Virginia	18,600	*Meteorology Studies	Prof G.J. Haltiner Meteorology
Chief of Naval Research Arlington, Virginia	1,500	*GFCG Symposium	Prof T. Sarpkaya Mechanical Engineering
Naval Air Systems Command Washington, D. C.	8,000	*Control Systems	Prof T. Sarpkaya Mechanical Engineering
Naval Air Systems Command Washington, D. C.	56,500	*a. Transonic Compressor Investigation b. Study of Axial Compressor Blades on Tip Clearance Losses c. Study of Turbomachinery	Prof M.H. Vavra
Naval Ordnance Systems Command Washington, D. C.	22,000	*Transmission of Sound through a Rough Interface	Prof H. Medwin Physics

TRAVEL - 28 SEPTEMBER - 12 OCTOBER

Supported by BuPers Funds

D. Salinas	10/4 - 10/9	Los Angeles	Attend 1970 Nat'l. Aeronautic & Space Engr. & Mfg. Mtg.

No Cost to the Govn't.

D. F. Leipper	10/2 - 10/12	Seattle	Mtg. of NAS Panel on Internat'l. Marine Science Affairs
R. J. Smith	9/28	San Luis Obispo	Invitational lectures
E. F. O'Neil	10/1 - 10/2	Wash., D.C.	Attend Annual Mtg. of the Middle East Institute